NOVEMBER/DECEMBER 2023

CEL42 — ELECTRONIC COMMUNICATION SYSTEMS

Time : Three hours | Maximum : 75 marks

SWAMY [illegible] ARTS & SCIENCE COLLEGE
LIBRARY

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Define amplitude modulation.

2. Define SSB-SC.

3. Define frequency modulation.

4. State the transmission bandwidth of FM wave.

5. What are the types of pulse modulation?

6. What is the advantage of delta modulation over pulse modulation schemes?

7. What are the three types of satellite communication?

8. What is the RADAR range equation?

9. Define antenna efficiency.

10. Define directivity.

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) What is amplitude modulation and explain with diagram?

Or

(b) Give the theory of single sideband modulation.

12. (a) Explain now a Varactor diode is used to generate FM signal. Explain with the necessary mathematical equations.

Or

(b) How does a ratio detector work?

13. (a) State and prove sample theorem.

Or

(b) Explain generation of PAM with mathematical analysis.

14. (a) Explain about CDMA.

Or

(b) What is satellite communication and how it is work?

15. (a) Explain the theory of folded dipole antenna and what happens when dipole antenna is folded.

Or

(b) Write about Helical antenna and its features.

SHANMUGA INDUSTRIES ARTS & SCIENCE COLLEGE LIBRARY

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Draw the block diagram of AM super heterodyne receiver, and explain the operation of each stage of the receiver.

17. What is a Foster-Seeley Discriminator and how does it work?

18. Explain the Pulse Code Modulation system with neat block diagram.

19. Differentiate Time Division and Frequency Division Multiplexing.

20. How does a parabolic dish antenna work explain with neat diagram?
